

**UCSC****University of Colombo, Sri Lanka***University of Colombo School of Computing***DEGREE OF BACHELOR OF INFORMATION TECHNOLOGY  
(EXTERNAL)**Academic Year 2024 — 2<sup>nd</sup> Year Examination — Semester 4**IT4306 — Information Technology Project Management***Part 2 - Structured Question Paper*

(2 Hours for both Part 1 and Part 2)

**To be completed by the candidate****Index Number**

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**Important Instructions**

- This paper has **two (2) parts, Part 1 and Part 2**.
- The total duration of **both Part 1 and Part 2 is 2 hours**.
- The final mark for the paper will be determined by averaging the scores of Part 1 and Part 2, each of which is graded out of **100**.
- The medium of instructions and questions is English. Students should answer in the medium of English language only.
- This paper (Part 2) has **2 questions on 4 pages**. Answer **both** questions.
- Write your answers **only on the space provided** on this question paper.
- Do not tear off any part of this question paper. Under no circumstances may this paper (or any part of this paper), used or unused, be removed from the Examination Hall by a candidate.
- Note that questions appear on both sides of the paper. If a page or part of a page is not printed, please inform the supervisor/invigilator immediately.
- Any electronic device capable of storing and retrieving text, including electronic dictionaries, smartwatches, and mobile phones, is not allowed.
- Calculators are **not allowed**.
- *All Rights Reserved*. This question paper can NOT be used without proper permission from the University of Colombo School of Computing.

**To be completed by  
the examiners**

<b>1</b>	
<b>2</b>	
<b>Total</b>	

### Question 1

- (a) A new company that is in the business of developing mobile apps has a highly skilled and experienced development team and a limited marketing budget. In the mobile app market there is a growing demand for mental health applications. A major competitor is launching a product that aligns with the demand during the next week.

Considering the above scenario state whether the aspects given below are, a strength (S), weakness (W), Opportunity (O), or a Threat(T) by placing the relevant letter in the space provided. E.g. if the given aspect is a weakness then W has to be placed in the space provided.

**[6 x 5 = 30 marks]**

Highly skilled and experienced development team	
Limited marketing budget	
Growing demand for mental health applications in the mobile app segment	
Potential for strategic partnership with mental health professionals, influencers, and/or non-profit organizations.	
Highly saturated and competitive nature of the mental health mobile application market	
Competitors upcoming product that aligns with the demand	

- (b) Consider two tasks A and B and draw the task dependencies given below.

**[5 x 4 = 20 marks]**

<u><b>Finish-to-Start</b></u>	<u><b>Start-to-Start</b></u>
<u><b>Finish-to-Finish</b></u>	<u><b>Start-to-Finish</b></u>

## **Question 2**

- (a) You are managing a software development project with a planned budget of 1,000,000 LKR and a planned duration of six (6) months. During risk assessment, you identify a critical risk related to integrating a new third-party API, which may cause delays and additional costs.
- **Risk:** The integration might fail, causing a two-month delay and an additional cost of 300,000 LKR.
  - **Probability of failure:** 30%
  - **If the integration succeeds:** No additional cost or delay.
  - **You have an option to invest 50,000 LKR now in extra testing to reduce the failure probability to 10%.**
- (i) Using the decision tree method, calculate the expected monetary value (EMV) for both options available to the project manager. **Note:** Drawing the tree is required before computation of EMV.

**[25 marks]**

- (ii) Based on the calculation of EMV, what option would you take as the project manager?  
Justify your answer.

[05 marks]

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- (b) For each of the following scenarios identify the most appropriate type of contract to use.

**Note:** The full name of the contract type is required to obtain the full marks and shorten form will only carry half marks.

[4 x 5 = 20 marks]

The client wants a fixed scope software module delivered within a fixed timeline and budget. The requirements are stable, and the client prefers to transfer cost risk to the vendor	
You are developing a prototype with uncertain requirements. The client is willing to pay for actual effort and materials and expects flexibility as the project evolves.	
The client wants to provides incentives for high vendor performance based on quality and timeliness, with payment partially tied to subjective evaluation criteria.	
A government agency requires a contract where the vendor is reimbursed for actual costs plus a fixed percentage fee, regardless of project performance or results.	
A client expects a well-defined project with strict cost control and minimal client involvement once the contract is signed.	

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